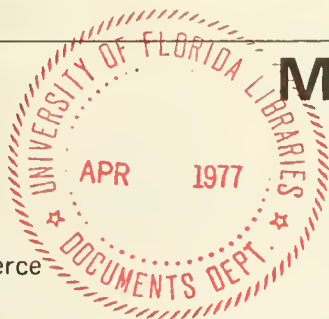




U.S. Department of Commerce  
BUREAU OF THE CENSUS



# Manufacturers' Shipments, Inventories, and Orders

January 1977

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All figures in text below are in seasonally adjusted current dollars

Shipments of all manufacturing industries declined by 1 percent or \$1.4 billion in January to \$103.9 billion while inventories rose by one-half of one percent or \$0.9 billion to \$167.7 billion, the Department of Commerce, Bureau of the Census reported today. New orders for manufactured products declined by 2 percent or \$2.3 billion, but exceeded shipments by \$1.4 billion resulting in the fifth consecutive rise in the backlog of unfilled orders. The January decline in shipments and new orders follow substantial December increases: \$4.7 billion or 5 percent for shipments, and \$6.1 billion or 6 percent for new orders.

The January decrease in new orders and shipments resulted from decreases in durable goods which were heavily influenced by the transportation equipment industries. After the largest automotive increase in six years, shipments of motor vehicles and parts declined in January by \$1.2 billion or 12 percent to \$8.8 billion. Although the January decline offset much of the December increase in this industry, January shipments of motor vehicles and parts remain 10 percent or \$0.8 billion above the November shipments level of \$8.0 billion. Since new orders are essentially equal to shipments in this industry, the shipments decline contributed about half of the overall decline in new orders. The aircraft and parts industry also followed an unusually large December increase with a \$1.6 billion or 41 percent decline in new orders in January.

New orders recorded by manufacturing industries other than the transportation equipment industries rose \$0.6 billion or nearly 1 percent. The new orders received by the primary metals producers rose nearly 10 percent or \$0.7 billion to \$7.9 billion. Blast furnaces and steel mills, after recording several declines in mid-1976, reported a 6 percent or \$0.2 billion increase in new orders to \$4.0 billion. New orders for nonelectrical machinery rose 3 percent or \$0.3 billion to \$10.1 billion.

The \$0.6 billion or 1 percent rise in shipments by nondurable goods industries was substantially the result of a \$0.4 billion or 6 percent rise in shipments of petroleum products to \$7.9 billion and a \$0.2 billion or 2 percent rise in shipments of food products to \$14.9 billion. The January increase in manufacturing inventories was entirely due to an increase in durable goods industries. Inventories held by motor vehicles and parts producers rose \$0.4 billion or 6 percent to \$6.7 billion and inventories held by blast furnaces and steel mills rose \$0.2 billion or 2 percent to \$10.2 billion. Most of the remaining increase was attributable to an increase in the lumber and wood products industries. Inventories held by nondurable goods manufactures were virtually unchanged in every industry.

When the basic industries are recast into supplemental categories, nondefense capital goods industries showed a \$0.5 billion or 3 percent rise in new orders to \$14.8 billion and a \$0.3 billion or 2 percent decline in shipments to \$13.9 billion. As new orders exceeded shipments by \$0.9 billion, the backlog of unfilled orders for nondefense capital goods industries rose 1 percent to \$78.9 billion. The substantially more volatile defense capital goods industries recorded a \$2.3 billion or 58 percent decline in new orders to \$1.7 billion while shipments remained unchanged at \$2.4 billion. The backlog of unfilled orders for defense industries fell by \$0.7 billion or 2 percent to \$31.5 billion.

## SCHEDULED RELEASE DATES

The advance report on durable goods for February is scheduled for release on March 21, 1977, and the full report is scheduled for release on March 30, 1977.

Address inquiries concerning these figures to U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233, or call William Menth, (301) 763-2502.

For sale by the Subscriber Services Section (Publications), Bureau of the Census, Washington, D.C. 20233, or any U.S. Department of Commerce district office. Postage stamps not acceptable; currency submitted at sender's risk. Remittances from foreign countries must be by international money order or by a draft on a U.S. bank. Price 30 cents per copy, \$3.60 per year.

Table 1.--VALUE OF MANUFACTURERS' SHIPMENTS, INVENTORIES, AND ORDERS, BY INDUSTRY GROUP

(Millions of dollars)

Industry group	Shipments						Total inventories					
	Seasonally adjusted			Without seasonal adjustment <sup>1</sup>			Seasonally adjusted			Without seasonal adjustment <sup>1</sup>		
	Jan. 1977 <sup>p</sup>	Dec. 1976 <sup>r</sup>	Nov. 1976 <sup>r</sup>	Jan. 1977 <sup>p</sup>	Dec. 1976 <sup>r</sup>	Jan. 1976	Jan. 1977 <sup>p</sup>	Dec. 1976 <sup>r</sup>	Nov. 1976 <sup>r</sup>	Jan. 1977 <sup>p</sup>	Dec. 1976 <sup>r</sup>	Jan. 1976
All manufacturing industries:												
Total.....	103,927	105,277	100,596	97,136	98,444	87,424	167,709	166,856	167,114	169,523	167,560	157,298
Total, excluding transportation.....	91,240	91,008	88,891	85,027	86,448	77,786	148,134	147,610	147,068	149,557	148,206	138,071
Durable goods industries, total.	53,573	55,520	51,427	49,509	50,726	43,210	106,811	105,988	106,128	107,628	105,767	100,464
Stone, clay, and glass products.	2,638	2,703	2,569	2,281	2,320	2,112	4,236	4,194	4,130	4,250	4,114	3,860
Primary metals, total.....	7,297	7,298	7,283	6,947	6,752	6,544	17,243	17,130	17,178	17,657	17,294	15,648
Blast furnaces, steel mills.	3,474	3,583	3,714	3,463	3,357	3,517	10,174	9,980	10,072	10,560	10,309	8,825
Nonferrous and other primary metals.....	2,978	2,910	2,751	2,707	2,694	2,326	6,125	6,178	6,126	6,149	6,030	5,956
Fabricated metal products total.....	6,746	6,961	6,610	6,157	6,505	5,779	13,282	13,173	13,183	13,186	12,946	12,915
Metal cans, barrels, and drums.....	566	569	556	488	479	489	1,147	1,109	1,085	1,134	1,000	1,166
Machinery, except electrical, total.....	9,828	9,666	9,407	9,195	9,405	7,997	24,272	24,320	23,845	24,410	24,328	23,467
Engines and turbines.....	919	830	861	827	993	659	1,949	1,917	1,805	1,945	1,922	1,642
Farm machinery and equipment.	967	956	854	913	752	781	2,337	2,323	2,252	2,393	2,309	2,328
Construction, mining, and material handling equipment.	1,696	1,726	1,660	1,640	1,531	1,480	5,500	5,623	5,737	5,588	5,657	5,676
Metalworking machinery.....	518	576	550	485	605	495	1,574	1,555	1,531	1,576	1,541	1,655
General industrial machinery	800	850	809	713	856	706	2,555	2,472	2,463	2,562	2,420	2,391
Electrical machinery, total...	6,501	6,700	6,273	5,969	6,565	5,134	14,043	14,112	14,009	14,068	13,977	12,684
Electrical transmission and distribution equipment and industrial apparatus.....	1,320	1,231	1,163	1,186	1,224	976	2,899	2,884	2,817	2,912	2,882	2,516
Household appliances.....	878	902	879	719	825	665	1,442	1,504	1,537	1,494	1,505	1,379
Radio and TV.....	440	465	444	383	484	403	821	816	849	764	781	822
Communication equipment.....	1,647	1,820	1,649	1,634	1,883	1,285	4,153	4,239	4,224	4,240	4,217	3,843
Transportation equipment, total	12,687	14,269	11,705	12,109	11,996	9,638	19,575	19,246	20,046	19,966	19,354	19,227
Motor vehicles and parts....	8,806	10,036	8,004	8,604	7,925	6,535	6,679	6,301	6,974	6,879	6,376	6,237
Aircraft, missiles, and parts.....	2,242	2,729	2,310	2,200	2,771	1,932	10,213	10,251	10,391	10,347	10,231	10,503
Shipbuilding and military tank vehicles.....	759	654	648	685	659	553	1,195	1,200	1,240	1,211	1,255	1,216
Instruments and related products, total.....	2,269	2,198	2,123	2,074	2,197	1,845	4,640	4,574	4,581	4,577	4,535	4,328
Scientific and engineering..	1,391	1,283	1,256	1,327	1,260	1,115	2,865	2,816	2,863	2,851	2,853	2,674
Photographic goods.....	690	747	714	574	780	580	1,292	1,269	1,234	1,253	1,206	1,226
All other durable goods industries.....	5,607	5,725	5,457	4,777	4,986	4,161	9,520	9,239	9,156	9,514	9,219	8,335
Nondurable goods industries, total.....	50,354	49,757	49,169	47,627	47,718	44,214	60,898	60,868	60,986	61,895	61,793	56,834
Food and kindred products, total.....	14,948	14,711	14,773	14,311	14,703	13,981	15,697	15,648	15,694	16,293	16,411	15,026
Meat products.....	3,801	3,815	3,639	3,797	3,845	3,798	1,228	1,261	1,342	1,236	1,245	1,228
Fats and oils.....	1,349	1,354	1,380	1,353	1,335	1,172	1,817	1,829	1,743	2,042	2,096	1,448
Tobacco products.....	703	753	640	668	751	647	3,469	3,508	3,630	3,774	3,746	3,545
Textile mill products.....	3,260	3,302	3,143	2,938	3,097	2,885	5,275	5,253	5,176	5,247	5,118	4,878
Paper and allied products, total.....	4,345	4,296	4,153	4,164	4,011	3,846	5,211	5,200	5,292	5,224	5,244	4,794
Pulp, paper, etc.....	1,913	1,876	1,809	1,862	1,746	1,697	2,011	2,004	2,071	2,005	2,012	1,873
Paperboard containers.....	1,032	1,008	1,003	969	948	953	1,349	1,357	1,369	1,332	1,355	1,255
All other paper containers..	1,400	1,412	1,341	1,333	1,317	1,196	1,851	1,839	1,852	1,887	1,877	1,666
Chemicals and allied products, total.....	8,546	8,617	8,827	8,086	7,961	7,677	13,156	13,042	13,088	13,404	13,241	12,096
Industrial chemicals, except pigments.....	2,804	2,906	3,114	2,863	2,757	2,691	3,844	3,890	3,904	3,944	3,952	3,533
Drugs, soap, and toiletries.	2,102	2,149	2,137	1,995	2,031	1,854	3,906	3,799	3,817	3,867	3,788	3,551
Petroleum and coal products...	7,923	7,484	7,154	7,792	7,496	6,402	5,035	5,148	5,053	4,982	5,142	4,472
Rubber and plastics products, n.e.c.....	2,856	2,815	2,806	2,625	2,570	2,372	3,945	3,888	3,855	3,962	3,936	3,763
All other nondurable goods industries.....	7,773	7,779	7,673	7,043	7,129	6,404	9,110	9,181	9,198	9,009	8,955	8,260

See footnotes at end of table.

Table 1.--VALUE OF MANUFACTURERS' SHIPMENTS, INVENTORIES, AND ORDERS, BY INDUSTRY GROUP--Continued

(Millions of dollars)

Industry group	New orders						Unfilled orders					
	Seasonally adjusted			Without seasonal adjustment <sup>1</sup>			Seasonally adjusted			Without seasonal adjustment <sup>1</sup>		
	Jan. 1977 <sup>P</sup>	Dec. 1976 <sup>r</sup>	Nov. 1976 <sup>r</sup>	Jan. 1977 <sup>P</sup>	Dec. 1976 <sup>r</sup>	Jan. 1976	Jan. 1977 <sup>P</sup>	Dec. 1976 <sup>r</sup>	Nov. 1976 <sup>r</sup>	Jan. 1977 <sup>P</sup>	Dec. 1976 <sup>r</sup>	Jan. 1976
All manufacturing industries: <sup>2</sup>												
Total.....	105,346	107,634	101,461	99,248	100,227	86,841	177,107	175,686	173,333	176,564	174,453	169,660
Total, excluding transportation.....	92,688	92,054	89,270	86,679	86,937	77,683	124,382	122,933	121,888	123,105	121,456	119,722
Durable goods industries, total <sup>2</sup>	55,013	57,497	52,424	51,430	52,298	42,307	168,934	167,494	165,519	168,557	166,639	161,822
Primary metals, total.....	7,943	7,252	7,529	7,602	6,948	6,368	16,649	16,004	16,051	16,393	15,740	14,343
Blast furnaces, steel mills.	4,047	3,808	3,650	3,803	3,738	3,489	10,566	9,993	9,768	10,302	9,963	9,226
Nonferrous and other primary metal products.....	3,002	2,629	3,080	2,970	2,496	2,332	5,003	4,980	5,261	4,998	4,736	3,896
Fabricated metal products.....	6,816	7,072	6,805	6,238	6,482	5,674	23,372	23,302	23,192	23,170	23,090	23,388
Machinery, except electrical, total.....	10,111	9,822	9,336	9,404	9,448	7,936	44,283	44,001	43,843	44,064	43,854	45,239
Engines and turbines.....	835	557	747	642	1,006	770	16,449	16,533	16,806	16,406	16,590	16,067
Construction, mining, and material handling equipment.	1,732	1,762	1,674	1,688	1,503	1,379	6,432	6,396	6,360	6,387	6,339	7,633
Metalworking machinery.....	643	677	763	573	663	461	3,035	2,910	2,809	2,977	2,890	2,582
General industrial machinery.	1,073	873	715	993	808	513	6,673	6,400	6,378	6,673	6,393	6,686
Electrical machinery, total...	6,949	7,139	6,408	6,386	6,786	5,071	23,699	23,251	22,812	23,486	23,071	21,019
Electrical transmission and distribution equipment and industrial apparatus.....	1,413	1,300	1,157	1,308	1,264	836	5,984	5,890	5,822	5,974	5,853	5,812
Household appliances.....	952	938	909	783	862	719	366	292	256	324	261	255
Radio and TV.....	443	487	452	364	515	393	549	546	524	506	525	443
Communication equipment.....	1,817	2,143	1,792	1,831	2,010	1,420	10,844	10,674	10,351	10,839	10,642	9,079
Transportation equipment, total <sup>2</sup> .....	12,658	15,580	12,191	12,569	13,290	9,158	52,725	52,753	51,445	53,459	52,997	49,938
Aircraft, missiles, and parts <sup>2</sup> .....	2,330	3,924	2,882	2,483	3,980	1,584	34,834	34,746	33,553	35,297	35,014	32,988
Shipbuilding and military tank vehicles.....	434	822	553	583	696	173	9,810	10,134	9,967	9,862	9,963	9,359
All other durable goods industries.....	10,536	10,632	10,155	9,231	9,344	8,100	8,206	8,183	8,176	7,985	7,887	7,895
Nondurable goods industries, total.....	50,333	50,137	49,037	47,818	47,929	44,534	8,173	8,192	7,814	8,007	7,814	7,838
Industries with unfilled orders.....	11,826	12,266	11,243	11,261	11,540	9,891	8,173	8,192	7,814	8,007	7,814	7,838
Industries without unfilled orders.....	38,507	37,871	37,794	36,557	36,389	34,643	-	-	-	-	-	-

- Represents zero. <sup>P</sup>Preliminary. <sup>r</sup>Revised.<sup>1</sup>Adjusted for trading-day and calendar-month variations.<sup>2</sup>See footnote 2 on table 2.



Table 2.--VALUE OF MANUFACTURERS' SHIPMENTS, INVENTORIES, AND ORDERS, FOR MARKET CATEGORIES AND SUPPLEMENTARY SERIES  
(Millions of dollars)

Industry group	Seasonally adjusted			Without seasonal adjustment <sup>1</sup>			Seasonally adjusted			Without seasonal adjustment		
	Jan. 1977 <sup>P</sup>	Dec. 1976 <sup>R</sup>	Nov. 1976 <sup>R</sup>	Jan. 1977 <sup>P</sup>	Dec. 1976 <sup>R</sup>	Jan. 1976	Jan. 1977 <sup>P</sup>	Dec. 1976 <sup>R</sup>	Nov. 1976 <sup>R</sup>	Jan. 1977 <sup>P</sup>	Dec. 1976 <sup>R</sup>	Jan. 1976
	Shipments						Total inventories					
All manufacturing industries, total <sup>2</sup> ..	103,927	105,277	100,596	97,136	98,444	87,424	167,709	166,856	167,114	169,523	167,560	157,298
Durable goods industries, total.....	53,573	55,520	51,427	49,509	50,726	43,210	106,811	105,988	106,128	107,628	105,767	100,464
Nondurable goods industries, total <sup>2</sup> .....	50,354	49,757	49,169	47,627	47,718	44,214	60,898	60,868	60,986	61,895	61,793	56,834
Industry groups arranged by market categories:												
Home goods and apparel.....	8,474	8,462	8,431	7,395	7,366	6,923	14,078	14,039	14,143	13,975	13,797	12,904
Consumer staples <sup>2</sup> .....	18,547	18,405	18,297	17,611	18,296	17,048	23,184	23,129	23,367	23,821	23,784	22,378
Equipment and defense products, except automotive.....	14,433	14,888	14,004	13,510	14,675	11,738	39,112	39,300	38,943	39,375	39,210	38,297
Automotive equipment.....	10,534	11,711	9,603	10,014	9,283	7,652	8,859	8,430	8,993	9,040	8,482	8,124
Construction materials, supplies, and intermediate products.....	8,436	8,898	8,505	7,069	7,994	6,582	14,527	14,161	13,983	14,507	14,038	13,429
Other materials and supplies and intermediate products.....	43,503	42,913	41,756	41,537	40,830	37,481	67,949	67,797	67,685	68,805	68,249	62,166
Supplementary series:												
Household durable goods industries.....	3,326	3,319	3,263	2,886	3,063	2,742	6,943	6,923	6,996	6,931	6,855	6,374
Capital goods industries.....	16,255	16,671	15,639	15,165	16,552	13,006	43,400	43,562	43,124	43,698	43,484	42,034
Nondefense.....	13,876	14,208	13,350	12,836	13,995	11,077	36,783	36,880	36,277	36,981	36,778	35,641
Defense.....	2,379	2,463	2,289	2,329	2,557	1,929	6,617	6,682	6,847	6,717	6,706	6,393
	New orders						Unfilled orders					
All manufacturing industries, total <sup>2</sup> ..	105,346	107,634	101,461	99,248	100,227	86,841	177,107	175,686	173,333	176,564	174,453	169,660
Durable goods industries, total <sup>2</sup> .....	55,013	57,497	52,424	51,430	52,298	42,307	168,934	167,494	165,519	168,557	166,639	161,822
Nondurable goods industries, total.....	50,333	50,137	49,037	47,818	47,929	44,534	8,173	8,192	7,814	8,007	7,814	7,838
Industry groups arranged by market categories:												
Home goods and apparel.....	8,658	8,470	8,433	7,537	7,256	6,957	3,521	3,302	3,303	3,327	3,130	3,111
Consumer staples.....	18,580	18,398	18,274	17,667	18,295	17,083						
Equipment and defense products, except automotive.....	14,023	16,386	14,086	13,560	15,992	11,012	101,072	101,296	99,712	101,563	101,283	98,357
Automotive equipment.....	10,719	11,800	9,628	10,243	9,469	8,053						
Construction materials, supplies, and intermediate products.....	8,516	9,075	8,721	7,161	8,100	6,490	18,093	18,014	17,836	17,956	17,863	18,933
Other materials and supplies and intermediate products.....	44,850	43,505	42,319	43,080	41,115	37,246	54,421	53,074	52,482	53,718	52,177	49,259
Supplementary series:												
Household durable goods industries.....	3,495	3,314	3,284	3,014	2,964	2,760	2,814	2,644	2,650	2,603	2,477	2,477
Capital goods industries.....	16,424	18,303	16,064	15,824	17,733	12,168	110,422	110,253	108,623	110,682	110,024	107,432
Nondefense.....	14,755	14,305	12,878	13,796	13,695	10,613	78,900	78,022	77,925	78,795	77,836	78,649
Defense.....	1,669	3,998	3,186	2,028	4,038	1,555	31,522	32,231	30,698	31,887	32,188	28,783

\*During 1968 manufacturers in ordnance, communications, aircraft and aircraft parts, and shipbuilding industries began to provide aggregate figures on shipments, orders, and total inventories of work performed for the Department of Defense. The results of these reports are included in these new defense series. Since there are no historic data available to develop separate seasonal factors for these reporters, the data have been seasonally adjusted using the factors of these industries. <sup>P</sup>Preliminary. <sup>R</sup>Revised. <sup>1</sup>Shipments and new orders adjusted for trading-day and calendar-month variations; unfilled orders and inventories as of end of month. <sup>2</sup>The following data reflect revised shipments, new orders, and unfilled orders data:

Item	Shipments			New orders			Unfilled orders		
	Seasonally adjusted	Without seasonal adjustment		Seasonally adjusted	Without seasonal adjustment		Seasonally adjusted	Without seasonal adjustment	
	Oct. 1976	Nov. 1976	Oct. 1976	Oct. 1976	Nov. 1976	Oct. 1976	Oct. 1976	Nov. 1976	Oct. 1976
All mfg., total..	97,682	100,708	101,820	99,646	100,619	103,112	172,468	172,646	172,731
Durables, total.....	(X)	(X)	(X)	50,993	51,449	53,016	164,522	165,040	164,998
Transportation.....	(X)	(X)	(X)	11,431	12,442	12,645	50,958	51,672	51,496
Aircraft and parts.....	(X)	(X)	(X)	3,539	2,529	3,754	32,982	33,774	33,553
Non-durables, total..	48,415	49,300	49,951	(X)	(X)	(X)	(X)	(X)	(X)
Foods and kindred products.....	14,807	15,024	15,289	(X)	(X)	(X)	(X)	(X)	(X)
Capital goods.....	(X)	(X)	(X)	17,203	15,312	17,384	108,198	108,843	108,933
Defense.....	(X)	(X)	(X)	2,901	2,671	3,100	29,800	30,706	30,239

(X) Not available.

Table 3.--MANUFACTURERS' SHIPMENTS, INVENTORIES, AND ORDERS MONTH-TO-MONTH AND LONG TERM PERCENT CHANGES

(Based on seasonally adjusted data)

Item and industry group	Month-to-month			Average monthly rates of change				Average, 1970-1975	
	Dec. 1976- Jan. 1977	Nov.- Dec. 1976	Oct.- Nov. 1976	3 months			12 months Jan. 1976- Jan. 1977	Average rise	Average decline
				Oct. 1976- Jan. 1977	July- Oct. 1976	Apr.- July 1976			
Shipments:									
All manufacturing industries.....	-1.3	+4.7	+3.0	+2.1	-0.6	+0.3	+0.9	+1.4	-1.2
Durable goods industries, total.....	-3.5	+8.0	+4.4	+3.0	-1.2	+0.6	+1.1	+1.6	-1.4
Nondurable goods industries, total.....	+1.2	+1.2	+1.6	+1.3	+0.5	+0.1	+0.6	+1.5	-1.1
Total inventories:									
All manufacturing industries.....	+0.5	-0.2	+0.3	+0.2	+0.9	+0.8	+0.6	+1.0	-0.3
New orders:									
All manufacturing industries.....	-2.1	+6.1	+1.8	+1.9	+0.2	+0.1	+1.1	+1.7	-1.7
Durable goods industries, total.....	-4.3	+9.7	+2.8	+2.7	-0.1	+0.6	+1.6	+2.4	-2.6
Nondurable goods industries, total.....	+0.4	+2.2	+0.8	+1.1	+0.4	-0.3	+0.6	+1.7	-1.0
Unfilled orders:									
Durable goods industries, total.....	+0.9	+1.2	+0.6	+0.9	+0.1	+0.3	+0.4	+1.6	-1.0

Table 4.--VALUE OF MANUFACTURERS' INVENTORIES, BY STAGE OF FABRICATION, BY INDUSTRY GROUP

(Millions of dollars)

Industry group	Seasonally adjusted			Without seasonal adjustment			Seasonally adjusted			Without seasonal adjustment		
	Jan. 1977 <sup>P</sup>	Dec. 1976 <sup>r</sup>	Nov. 1976	Jan. 1977 <sup>P</sup>	Dec. 1976 <sup>r</sup>	Jan. 1976	Jan. 1977 <sup>P</sup>	Dec. 1976 <sup>r</sup>	Nov. 1976	Jan. 1977 <sup>P</sup>	Dec. 1976 <sup>r</sup>	Jan. 1976
	Total						Materials and supplies					
All manufacturing industries, total..	167,709	166,856	167,114	169,523	167,560	157,298	61,037	60,520	61,163	62,067	61,654	57,680
Durable goods industries, total.....	106,811	105,988	106,128	107,628	105,767	100,464	35,274	34,494	35,320	35,696	35,055	33,940
Stone, clay, and glass products.....	4,236	4,194	4,130	4,250	4,114	3,860	1,440	1,402	1,360	1,439	1,409	1,369
Primary metals.....	17,243	17,130	17,178	17,657	17,294	15,648	8,067	7,975	7,864	8,067	8,197	7,444
Machinery (electrical and nonelectrical).	38,315	38,432	37,854	38,478	38,305	36,151	10,836	10,757	11,013	10,877	10,803	10,707
Transportation equipment.....	19,575	19,246	20,046	19,966	19,354	19,227	4,991	4,580	5,264	5,115	4,738	4,935
All other durable goods industries.....	27,442	26,986	26,920	27,277	26,700	25,578	9,940	9,780	9,819	9,990	9,908	9,485
Nondurable goods industries, total.....	60,898	60,868	60,986	61,895	61,793	56,834	25,763	26,026	25,843	26,371	26,599	23,740
Chemicals and allied products.....	13,156	13,042	13,088	13,404	13,241	12,096	5,252	5,388	5,256	5,343	5,380	4,954
Petroleum and coal products.....	5,035	5,148	5,053	4,982	5,142	4,472	1,868	1,868	1,808	1,837	1,816	1,398
Rubber and plastics products, n.e.c.....	3,945	3,888	3,855	3,962	3,936	3,763	1,524	1,627	1,632	1,519	1,649	1,338
All other nondurable goods industries....	38,762	38,790	38,990	39,547	39,474	36,503	17,119	17,143	17,147	17,672	17,754	16,050
	Work in process						Finished goods					
All manufacturing industries, total..	52,354	52,235	52,176	52,662	51,784	49,396	54,318	54,101	53,775	54,794	54,122	50,222
Durable goods industries, total.....	43,226	43,056	43,005	43,451	42,679	41,000	28,311	28,438	27,803	28,481	28,033	25,524
Stone, clay, and glass products.....	658	646	640	661	607	553	2,138	2,146	2,130	2,150	2,098	1,938
Primary metals.....	5,854	5,822	5,967	5,964	5,738	5,170	3,322	3,333	3,347	3,418	3,359	3,034
Machinery (electrical and nonelectrical).	16,438	16,306	16,112	16,532	16,219	15,499	11,041	11,369	10,729	11,069	11,283	9,945
Transportation equipment.....	12,030	12,194	12,160	12,208	12,163	11,996	2,554	2,472	2,622	2,643	2,453	2,296
All other durable goods industries.....	8,246	8,088	8,126	8,086	7,952	7,782	9,256	9,118	8,975	9,201	8,840	8,311
Nondurable goods industries, total.....	9,128	9,179	9,171	9,211	9,105	8,396	26,007	25,663	25,972	26,313	26,089	24,698
Chemicals and allied products.....	2,204	2,151	2,169	2,216	2,141	1,916	5,700	5,503	5,663	5,845	5,720	5,226
Petroleum and coal products.....	1,071	1,142	1,158	1,047	1,135	1,024	2,096	2,138	2,087	2,098	2,191	2,050
Rubber and plastics products, n.e.c.....	683	692	706	710	698	612	1,738	1,569	1,517	1,733	1,589	1,813
All other nondurable goods industries....	5,170	5,194	5,138	5,238	5,131	4,844	16,473	16,453	16,705	16,637	16,589	15,609

<sup>P</sup>Preliminary.<sup>r</sup>Revised.

Table 5.--RATIO OF MANUFACTURERS' INVENTORIES TO SHIPMENTS AND UNFILLED ORDERS TO SHIPMENTS, BY INDUSTRY GROUP

(Based on seasonally adjusted data)

Industry group	Inventories - shipments ratio				Unfilled orders - shipments ratio <sup>1</sup> (months' backlog)			
	Jan. 1977 <sup>P</sup>	Dec. 1976 <sup>R</sup>	Nov. 1976 <sup>R</sup>	Jan. 1976	Jan. 1977 <sup>P</sup>	Dec. 1976 <sup>R</sup>	Nov. 1976 <sup>R</sup>	Jan. 1976
All manufacturing industries, total.....	1.61	1.58	1.66	1.66	3.35	3.27	3.38	3.53
Durable goods industries, total.....	1.99	1.91	2.06	2.11	4.02	3.91	4.05	4.26
Stone, clay, and glass products.....	1.61	1.55	1.61	1.58	0.95	0.95	1.00	1.19
Primary metals.....	2.36	2.35	2.36	2.23	2.28	2.19	2.20	2.13
Fabricated metals.....	1.97	1.89	1.99	2.05	3.78	3.65	3.83	4.08
Machinery, except electrical.....	2.47	2.52	2.53	2.71	5.00	5.05	5.13	5.83
Electrical machinery.....	2.16	2.11	2.23	2.25	3.65	3.47	3.64	3.74
Transportation equipment.....	1.54	1.35	1.71	1.82	8.79	8.09	8.88	9.03
Instruments and related products.....	2.04	2.08	2.16	2.16	1.63	1.69	1.72	1.62
Nondurable goods industries, total.....	1.21	1.22	1.24	1.20	0.75	0.75	0.75	0.79
Food and kindred products.....	1.05	1.06	1.06	0.99	(X)	(X)	(X)	(X)
Tobacco products.....	4.93	4.66	5.67	4.79	(X)	(X)	(X)	(X)
Textile mill products.....	1.62	1.59	1.65	1.53	(NA)	(NA)	(NA)	(NA)
Paper and allied products.....	1.20	1.21	1.27	1.19	(NA)	(NA)	(NA)	(NA)
Chemicals and allied products.....	1.54	1.51	1.48	1.46	(X)	(X)	(X)	(X)
Petroleum and coal products.....	0.64	0.69	0.71	0.72	(X)	(X)	(X)	(X)
Rubber and plastics products, n.e.c.....	1.38	1.38	1.37	1.45	(X)	(X)	(X)	(X)

NA) Not available.    <sup>P</sup>Preliminary.    <sup>R</sup>Revised.    (X) Not applicable.<sup>1</sup>Excludes the following industries with no unfilled orders. Wood and lumber products; glass containers; metal cans, barrels and drums; motor vehicles assembly operations; foods and related products; tobacco; apparel and related products; chemicals; petroleum and coal products; and rubber and plastics products, n.e.c.



## APPENDIX

The following is a description of the survey and definitions used. These are provided to clarify the meaning of the items involved and do not represent any revisions from those definitions previously employed.

### DESCRIPTION OF SURVEY

The Manufacturers' Shipments, Inventories, and Orders survey provides monthly figures that are comparable to the annual totals published each year in the Annual Survey of Manufactures (ASM). The ASM is based on a sample of approximately 60,000 manufacturing establishments drawn from the 5-year census universe of about 310,000 establishments. In the ASM, each manufacturing establishment provides data on employment, payrolls, shipments, cost of materials, capital expenditures, and inventories as well as other selected items. The establishments do not provide information on unfilled orders or new orders. Since the ASM is establishment based, it provides data for each of the 425 manufacturing industries in the Standard Industrial Classification System (SIC) and area data for industry groups.

The monthly survey M3-1 does not provide information at the complete SIC industry detail because of the smaller size of the reporting panel and the fact that most companies cannot provide shipments, inventories, and orders data monthly for individual establishments.

The monthly reporting panel consists of approximately 5,000 reporting units and includes virtually all companies with 1,000 or more employees and a sample of the smaller ones. The reporting unit typically comprises the entire operations of a company although many of the larger diversified companies file separate divisional type reports for their operations in different industries.

Most of the reporting units include mixed industry activity even within the broad industry categories of the monthly survey. The survey methodology assumes that the month-to-month changes of the reporting units classified in each industry category represent effectively the month-to-month movements of the establishments in the SIC industries which make up the category. Thus, the monthly reports are used to update the ASM estimates by using a link relative of matched companies in each industry.

### EXPLANATION OF TERMS

*Value of Shipments*—Shipments in the monthly survey are equivalent to value of shipments as reported in the ASM which are received or receivable net selling values, f.o.b. plant, after discounts and allowances and excluding freight charges and excise taxes. Included in shipments are the value of all products sold, transferred to other plants of the same company, or shipped on consignment.

Shipments also include receipts of establishments in the industry for contract work performed for others, resales, receipts for miscellaneous activities such as the sale of scrap and refuse; value of installation and repair work performed by employees of the plant; and value of research and development performed at the plant. In the aircraft industry and ship-

building, the value of work done in a given year varies considerably from the value of shipments because of the long lead time between the input of the materials and labor and the shipments of the completed aircraft or ship. In the annual survey, therefore, the value of work done during the year is requested rather than the value of shipments.

The value of shipments figures developed from the ASM contain duplication at the all manufacturing and industry group levels since the products of some industries are used as materials by other industries within the industry group. With the exception of motor vehicles, it is not significant at the 4-digit SIC group level. Since the M3-1 industry categories typically are groupings of industries, this duplication is significant for the all manufacturing, durable goods and nondurable goods categories and the various market groups. The significance of the duplication within the specific M3-1 industry groups varies depending on the 4-digit industry composition of these groups. It is most pronounced in a few highly integrated industry areas such as primary metals and motor vehicles and parts.

Since most monthly reports are for the entire company or major divisions rather than establishments, the companies are requested to report net sales, i.e., total company billings after discounts and allowances. Companies which file divisional reports are requested to treat transfers from one division of the company to another as if they were net sales to outside customers. Although this definition of shipments in the monthly reports differs from that used in the annual establishment reports, it is assumed that the month-to-month changes in company sales in the industry are representative of the month-to-month shipments of the establishments in the industry.

*Inventories*—End-of-month inventories in the monthly survey are identical in definition to the end-of-year inventories in the ASM. In the ASM, respondents are asked to report inventories of individual establishments at approximate current cost if feasible; otherwise, "at book values." Since different methods of inventory valuation are used (LIFO, FIFO, etc.), the definition of the aggregate inventories for establishments in an industry is not precise. The figures on the change in inventories from one period to the next are of greater significance than the actual aggregates.

Inventories are reported by stage of fabrication: (a) finished goods; (b) work in process; and (c) materials, supplies, fuel, and other inventories. In using inventories by stage of fabrication at the all manufacturing and 2-digit industry levels as well as for the durable and nondurable goods sectors, it should be noted that a finished product of one industry may be a raw material for another industry at the next stage of fabrication. Insofar as the durable and nondurable goods sectors and also the 2-digit industry groups contain industries with successive stages of processing, the same type of commodity may be included under different inventory categories in the aggregate statistics.

*New Orders Received and Unfilled Orders*—Orders as reported in the monthly survey are net of cancellations during the month. They include orders received during the period and also filled during the period as well as those orders received for future delivery. They also include the net sales value of contract

change documents which increase or decrease the sales value of the unfilled orders to which they relate. Orders include only those supported by binding legal documents such as signed contracts, or letter contracts. In case of letter contracts the full amount of the sales value is included if the parties are in substantial agreement on the amount; otherwise, only the funds specifically authorized to be expended are included. The respondent is instructed to deduct the sales value of partial or complete cancellation of existing orders.

Unfilled orders include orders as defined above that have not yet passed through the sales account. Generally, unfilled orders at the end of the reporting period are equal to unfilled orders at



the beginning of the period plus net new orders received less net sales.

While both new orders and unfilled orders are used in reviewing individual company reports for consistency, only unfilled orders are estimated directly in the tabulated totals. New orders are derived from the shipments plus net change in unfilled orders for each industry category. This procedure is followed for seasonally adjusted data as well as for the unadjusted data. Shipments and unfilled orders are seasonally adjusted independently. Seasonally adjusted new orders are derived from seasonally adjusted shipments and seasonally adjusted unfilled orders.